May 20, 1978, the following component assemblies, and subordinate drawings:

Drawing No.	Revision
78051–61 head assembly—complete, dated May 20, 1978.	(T)
78051–90 neck assembly—complete, dated May 20, 1978.	(A)
78051–89 upper torso assembly—complete, dated May 20, 1978.	(K)
78051–70 lower torso assembly—complete, dated August 20, 1996, except for drawing No. 78051–55, "Instrumentation Assembly—Pelvic Accelerometer," dated August 2, 1979.	(E)
86–5001–001 leg assembly—complete (LH), dated March 26, 1996.	(A)
86–5001–002 leg assembly—complete (RH), dated March 26, 1996.	(A)
78051–123 arm assembly—complete (LH), dated May 20, 1996.	(D)
78051–124 arm assembly—complete (RH), dated May 20, 1978.	(D)

(4) Disassembly, Inspection, Assembly and Limbs Adjustment Procedures for the Hybrid III dummy, dated September 1996.

(5) Sign Convention for signal outputs—reference document SAE J1733 Information Report, titled "Sign Convention for Vehicle Crash Testing", dated 1994–12.

(6) Exterior dimensions of the Hybrid III dummy, dated July 15, 1986.

(b) Any specifications and requirements set forth in this part supercede those contained in General Motors Drawing No. 78051–218, revision P.

(c) Adjacent segments are joined in a manner such that throughout the range of motion and also under crash-impact conditions, there is no contact between metallic elements except for contacts that exist under static conditions.

(d) The weights, inertial properties and centers of gravity location of component assemblies shall conform to those listed in drawing 78051–338, revision S, titled "Segment Weights, Inertial Properties, Center of Gravity Location—Hybrid III," dated May 20, 1978 of drawing No. 78051–218.

(e) The structural properties of the dummy are such that the dummy con-forms to this part in every respect both before and after being used in vehicle test specified in Standard No. 208 of this chapter (§ 571.208).

§ 572.32   Head.

(a) The head consists of the assembly shown in drawing 78051–61X, revision C, and conforms to each of the drawings subtended therein.
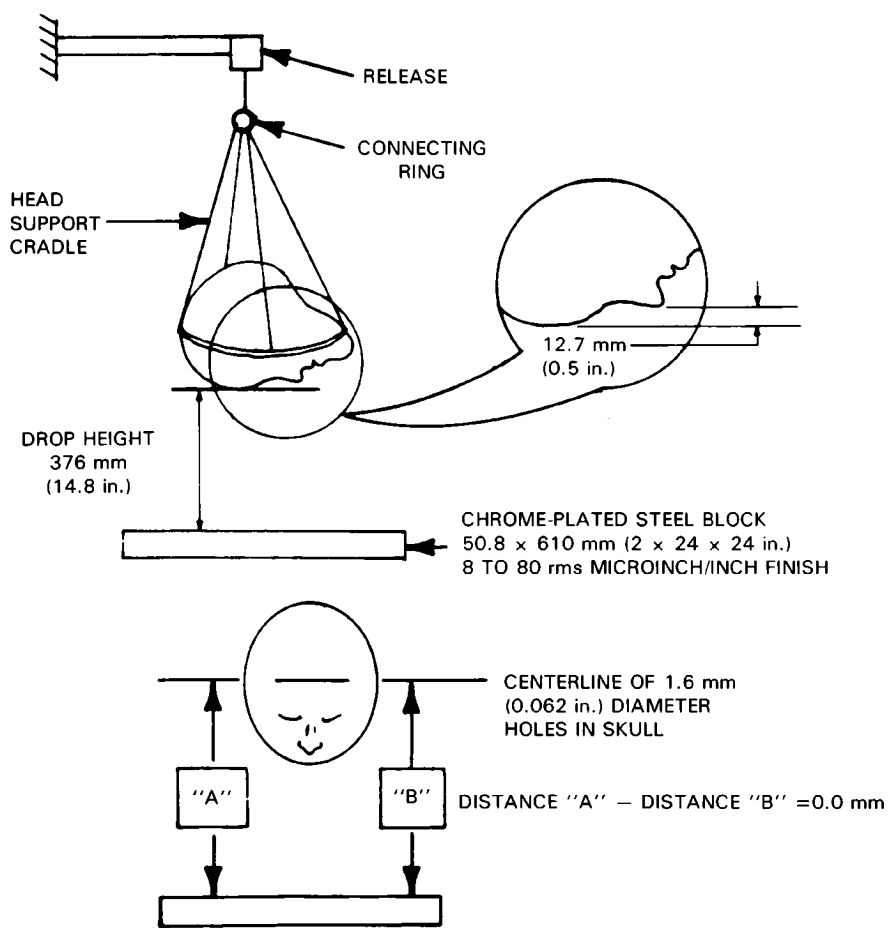
(b) When the head (Drawing number 78051–61X, titled "head assembly—complete," dated March 28, 1997 (Revision C) with six axis neck transducer structural replacement (Drawing number 78051–383X, Revision P, titled "Neck Transducer Structural Replacement," dated November 1, 1995) is dropped from a height of 14.8 inches in accordance with paragraph (c) of this section, the peak resultant accelerations at the location of the accelerometers mounted in the head in accordance with § 572.36(c) shall not be less than 225g, and not more than 275g. The acceleration/time curve for the test shall be unimodal to the extent that oscillations occurring after the main acceleration pulse are less than ten percent (zero to peak) of the main pulse. The lateral acceleration vector shall not exceed 15g (zero to peak).

(c) *Test procedure.* (1) Soak the head assembly in a test environment at any temperature between 66 degrees F to 78 degrees F and at a relative humidity from 10% to 70% for a period of at least four hours prior to its application in a test.

(2) Clean the head's skin surface and the surface of the impact plate with 1,1,1 Trichlorethane or equivalent.

(3) Suspend the head, as shown in Figure 19, so that the lowest point on the forehead is 0.5 inches below the lowest point on the dummy's nose when the midsagittal plane is vertical.

FIGURE 19

TEST SET-UP SPECIFICATIONS

RELEASE

CONNECTING
RING

HEAD
SUPPORT
CRADLE

12.7 mm
(0.5 in.)

DROP HEIGHT
376 mm
(14.8 in.)

CHROME-PLATED STEEL BLOCK
50.8 x 610 mm (2 x 24 x 24 in.)
8 TO 80 rms MICROINCH/INCH FINISH

CENTERLINE OF 1.6 mm
(0.062 in.) DIAMETER
HOLES IN SKULL

"A"   "B"   DISTANCE "A" − DISTANCE "B" =0.0 mm

NOTE: TOLERANCE ON TEST SETUP DIMENSIONS ±1 mm (0.04 in.)

(4) Drop the head from the specified height by means that ensure instant release into a rigidly supported flat horizontal steel plate, which is 2 inches thick and 2 feet square. The plate shall have a clean, dry surface and any microfinish of not less than 8 microinches (rms) and not more than 80 microinches (rms).

(5) Allow at least 3 hours between successive tests on the same head.

[51 FR 26701, July 25, 1986, as amended at 62 FR 27514, May 20, 1997]

§ 572.33 Neck.

(a) The neck consists of the assembly shown in drawing 78051–90, revision A and conforms to each of the drawings subtended therein.

(b) When the head and neck assembly (consisting of the parts 78051–61X, revision C; –90, revision A; –84; –94; –98; –104, revision F; –303, revision E; –305; –306; –307, revision X) which has a six axis neck transducer (Drawing number C–1709, Revision D, titled ''Neck transducer,'' dated February 1, 1993.) installed in conformance with § 572.36(d), is tested in accordance with paragraph (c) of this section, it shall have the following characteristics:

(1) *Flexion.* (i) Plane D, referenced in Figure 20, shall rotate between 64 degrees and 78 degrees, which shall occur between 57 milliseconds (ms) and 64 ms from time zero. In first rebound, the rotation of Plane D shall cross 0 degrees between 113 ms and 128 ms.

(ii) The moment measured by the six axis neck transducer (drawing C–1709, revision D) about the occipital condyles, referenced in Figure 20, shall be calculated by the following formula: Moment (lbs-ft) = $My - 0.058 \times Fx$, where My is the moment measured in lbs-ft by the ''Y'' axis moment sensor of the six axis neck transducer and Fx is the force measured in lbs by the ''X'' axis force sensor (Channel Class 600) of the six axis neck transducer. The moment shall have a maximum value between 65 lbs-ft and 80 lbs-ft occurring between 47m s and 58 ms, and the positive moment shall decay for the first time to 0 lb-ft between 97 ms and 107 ms.

(2) *Extension.* (i) Plane D, referenced in Figure 21, shall rotate between 81 degrees and 106 degrees, which shall occur between 72 ms and 82 ms from time zero. In first rebound, rotation of Plane D shall cross 0 degrees between 147 ms and 174 ms.

(ii) The moment measured by the six axis neck transducer (drawing C–1709, revision D) about the occipital condyles, referenced in Figure 21, shall be calculated by the following formula: Moment (lbs-ft) = $My - 0.058 \times Fx$, where My is the moment measured in lbs-ft by the ''Y'' axis moment sensor of the six axis neck transducer and Fx is the force measured in lbs by the ''X'' axis force sensor (Channel Class 600) of the six axis neck transducer. The moment shall have a maximum value between—39 lbs-ft and –59 lbs-ft, occurring between 65 ms and 79 ms, and the negative moment shall decay for the first time to 0 lb-ft between 120 ms and 148 ms.